

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE STANDARD**

**PASTURE AND HAY PLANTING**

(Ac.)

**CODE 512**

**DEFINITION**

Establishing native or introduced forage species.

**PURPOSE**

- Establish adapted and compatible species, varieties, or cultivars for forage production.
- Improve or maintain livestock nutrition and/or health.
- Balance forage supply and demand during the grazing season.
- Reduce soil erosion and improve water quality.
- Increase carbon sequestration.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice may be applied on lands where forage production and/or conservation are needed and feasible.

**CRITERIA**

**General Criteria Applicable to All Purposes**

Plant species and their cultivars shall be selected based upon:

- Climatic conditions, such as annual rainfall, seasonal rainfall patterns, growing season length, humidity levels, temperature extremes and the USDA Plant Hardiness Zones.
- Soil condition and position attributes such as pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of toxic elements that may be present.

- Resistance to disease and insects common to the site or location.
- Plant compatibility with other forage species and their selected cultivar(s) in rate of establishment, maturity, and growth habit when seeded together as a forage mixture.
- Planned use of the planted forage (producer goals).

Specified seeding/plant material rates, methods of planting and date of planting shall be consistent with the Plant Establishment Guide for Virginia.

Seeding rates will be calculated on a state approved method such as pure live seed (PLS) or percent germination.

Plant to proper depth ensuring seed or planting material will contact soil moisture uniformly.

Prepare site to provide a medium that does not restrict plant emergence.

Planting dates shall be scheduled during periods when soil moisture is adequate for germination and establishment.

All seed and planting materials shall meet state quality standards.

Select plants that according to federal, state, or local regulations are not considered noxious species.

For pesticide and herbicide use with planting, contact the Virginia Cooperative Extension Service for current information and recommendations.

Fertilizer and soil amendment recommendations shall be based on results from a current soil test. Application shall be appropriately placed and timed to be effective.

If needed, legume seed shall be inoculated with the proper species of viable Rhizobia before planting.

If using coated seed, recalibrate the planting equipment to deliver the same number of seed per area as would be applied with non-coated seed.

Livestock shall be excluded until the plants are well established.

**Additional Criteria for Establishing Adapted and Compatible Species, Varieties or Cultivars for Forage Production**

Select forage species based on the intended use, realistic expected yield, maturity stage, compatibility with other species and level of management. Plant adaptation to the proposed planting area shall be verified prior to planting.

**Additional Criteria for Improving or Maintaining Livestock Nutrition and/or Health**

Establish forage species that are most capable of meeting the desired level of nutrition (quantity and quality) for the kind and class of the livestock to be fed under the expected grazing duration and intensity.

**Additional Criteria for Balancing the Forage Supply and Demand during Low Forage Production Periods**

Select plants that will produce forage for use during periods when other on-farm/ranch forage does not meet livestock needs. Forage species selected shall balance or help balance the dry matter demand of the animals for the desired period of time.

**Additional Criteria for Reducing Erosion and Improving Water Quality**

Plants shall provide adequate ground cover, canopy cover, root mass and vegetative retardance to reduce runoff to sinkholes and surface waters and protect soil against wind and water erosion.

**Additional Criteria to Increase Carbon Sequestration**

For optimal carbon storage, select species that increase above ground vegetative matter and root biomass.

**CONSIDERATIONS**

In areas frequented by high density of animals, establish persistent species that can tolerate close grazing and trampling reduce stocking density or create sacrifice areas. See Virginia Conservation Practice Standard 528 (*Prescribed Grazing*).

Where wildlife management is an objective, use an approved habitat evaluation procedure to aid in selecting plant species and providing for other habitat requirements.

Where air quality concerns exist, site preparation techniques should be utilized that will minimize airborne particulate matter generation and transport.

**PLANS AND SPECIFICATIONS**

Specifications for the establishment of pasture and hay planting shall be prepared for each site or management unit according to the Criteria and Considerations described in this standard, and shall be recorded on specification sheets, VA 512 job sheets, in the conservation plan, or other acceptable documentation.

**OPERATION AND MAINTENANCE**

The operator will inspect and calibrate equipment prior to use to insure proper rate, distribution and depth of planting material.

Growth of seedlings or sprigs shall be monitored for water stress. Depending on the severity of drought, water stress may require reducing weeds, early harvest of any companion crops, irrigating when possible, or replanting failed stands.

Invasion by undesirable plants shall be controlled by cutting, using a selective herbicide, or by grazing management by manipulating livestock type, stocking rates, density, and duration of stay.

Insects and diseases shall be controlled when an infestation threatens stand survival. (See VA Cooperative Extension current year Pest Management Guide.)

Evaluate stand condition near the end of the growing season in the seeding year.

Evaluate forage stands each season or as needed to determine management inputs needed

Plant Establishment Guide for Virginia, Virginia Natural Resources Conservation Service

Agronomy Handbook, Publication 424-100, Revised 2000. Virginia Cooperative Extension Service. Blacksburg, VA.

2007 Pest Management Guides, Virginia Cooperative Extension.

<http://www.ext.vt.edu/pubs/pmg/index.html>

Forages, Fifth Edition, 1995. Volumes I and II, edited by R. F. Barnes, D. A. Miller, and C. J. Nelson; Ames, IA

to achieve the desired purpose(s).

## REFERENCES

National Range and Pasture Handbook. 1997. Chapter 5, section 2. USDA-NRCS. Washington, DC.

Southern Forages, Third edition, 2002. D. M. Ball, D. S. Hoveland, and G. D. Lacefield. Potash and Phosphate Institute and the Foundation for Agronomic Research, Norcross, GA

Invasive Plant List, Virginia Department of Conservation and Recreation, Natural Heritage website:  
[http://www.dcr.virginia.gov/natural\\_heritage/documents/invlist.pdf](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf)

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